ELSEVIER

Volume 337, 11 January 1999

thin solid films

Contents

Preface ix

Growth mechanism of microcrystalline silicon obtained from reactive plasmas*
A. Matsuda 1

Properties of polycrystalline silicon films prepared from fluorinated precursors
S. Ray, S. Mukhopadhayay, S.C. Saha, S. Hazra 7

The control of the high-density microwave plasma for large-area electronics
H. Shirai, Y. Sakuma, H. Ueyama 12

Control of orientation from random to (220) or (400) in polycrystalline silicon films
T. Kamiya, K. Nakahata, A. Miida, C.M. Fortmann, I. Shimizu 18

Microcrystalline silicon growth on a-Si:H: effects of hydrogen
P. Roca i Cabarrocas, S. Hamma 23

Structure of polycrystalline silicon films deposited at low temperature by plasma CVD on substrates exposed to different plasma
S. Moniruzzaman, T. Inokuma, Y. Kurata, S. Takenaka, S. Hasegawa 27

Deposition, defect and weak bond formation processes in a-Si:H
J. Robertson, M.J. Powell 32

Deposition of microcrystalline silicon in an integrated distributed electron cyclotron resonance PECVD reactor
P. Bulkin, A. Hofrichter, R. Brenot, B. Drévillon 37

Deposition of nanocrystalline silicon mediated by ultrathin aluminum underlayers by PCVD and sputter-deposition at 500 K
T.P. Drüsedau, A. Diez, J. Bläsing 41

Carrier transport, structure and orientation in polycrystalline silicon on glass
K. Nakahata, A. Miida, T. Kamiya, C.M. Fortmann, I. Shimizu 45

Solid-phase crystallization of amorphous SiGe films deposited by LPCVD on SiO_2 and glass
J. Olivares, A. Rodríguez, J. Sangrador, T. Rodríguez, C. Ballesteros, A. Kling 51

Polycrystalline silicon film growth in a $SiF_4/SiH_4/H_2$ plasma
B. Lee, L.J. Quinn, P.T. Baine, S.J.N. Mitchell, B.M. Armstrong, H.S. Gamble 55

Plasma enhanced chemical vapor deposition of nanocrystalline silicon films from SiF_4-H_2-He at low temperature
G. Cicala, P. Capezzuto, G. Bruno 59

Contactless electronic transport analysis of microcrystalline silicon
R. Brenot, R. Vanderhaghen, B. Drevillon, T. Mohammed-Brahim, P. Roca i Cabarrocas 63

Stability of the dielectric properties of PECVD deposited carbon-doped SiOF Films
J. Lubguban Jr., A. Saitoh, Y. Kurata, T. Inokuma, S. Hasegawa 67

High rate deposition of ta-C:H using an electron cyclotron wave resonance plasma source
N.A. Morrison, S.E. Rodil, A.C. Ferrari, J. Robertson, W.I. Milne 71

Crystallization control of the amorphous buffer layer in hydrogenated nanocrystalline silicon
F. Gourbilleau, A. Achiq, P. Voivenel, R. Rizk 74

Stability of low pressure chemical vapour deposition amorphous silicon
M. Kostana, J. Jang, S.M. Pietruszko 78

Optical properties of LPCVD silicon oxynitride
M. Modreanu, N. Tomozeiu, P. Cosmin, M. Gartner 82

High quality, relaxed SiGe epitaxial layers for solar cell application
K. Said, J. Poortmans, M. Caymax, R. Loo, A. Daami, G. Bremond, O. Kruger, M. Kittler 85

*Invited paper.

Shape of grain size distributions during crystal grain nucleation in a-Si
C. Spinella, S.A. Lombardo, F. Priolo 90

Improved characterization of polycrystalline silicon film, by resonant Raman scattering
V. Paillard, P. Puech, P. Temple-Boyer, B. Caussat, E. Scheid, J.P. Couderc, B. de Mauduit 93

In-situ diagnostics for preparation of laser crystallized silicon films on glass for solar cells
G. Andrä, J. Bergmann, F. Falk, E. Ose 98

State creation induced by gate bias stress in unhydrogenated polysilicon TFTs
B. Tala-Ighil, A. Rahal, K. Mourgues, A. Toutah, L. Pichon, T. Mohammed-Brahim, F. Raoult, O. Bonnaud . . 101

A new method for the determination of the channel length reduction in polysilicon thin film transistors (TFTs)
F.V. Farmakis, J. Brini, G. Kamarinos, N. Mathieu, C.A. Dimitriadis 105

Transport properties of μc-Si:H analyzed by means of numerical simulation
A. Fantoni, M. Vieira, R. Martins 109

Nitrogen-added Al rare-earth alloys for thin film transistors
T. Arai, H. Takatsuji, H. Iiyori 113

Surface passivation of silicon by rf magnetron-sputtered silicon nitride films
M. Vetter 118

Advanced excimer-laser annealing process for quasi single-crystal silicon thin-film devices*
M. Matsumura, C-H. Oh 123

Large-grained polycrystalline silicon on glass by copper vapor laser annealing
J.R. Köhler, R. Dassow, R.B. Bergmann, J. Krinke, H.P. Strunk, J.H. Werner 129

Single shot excimer laser crystallization and LPCVD silicon TFT's
Y. Helen, K. Mourgues, F. Raoult, T. Mohammed-Brahim, O. Bonnaud, R. Rogel, S. Prochasson, P. Boher, D. Zahorski 133

Lateral growth control in excimer laser crystallized polysilicon
L. Mariucci, R. Carluccio, A. Pecora, V. Foglietti, G. Fortunato, P. Legagneux, D. Pribat, D. Della Sala, J. Stoemenos 137

Surface melt dynamics and super lateral growth regime in long pulse duration excimer laser crystallization of amorphous Si films
E. Fogarassy, S. de Unamuno, P. Legagneux, F. Plais, D. Pribat, B. Godard, M. Stehle 143

Applicability of Raman scattering for the characterization of nanocrystalline silicon
Ch. Ossadnik, S. Vepřek, I. Gregora 148

Stability and transport properties of microcrystalline $Si_{1-x}Ge_x$ films
F. Edelman, T. Raz, Y. Komem, M. Stölzer, P. Werner, P. Zaumseil, H.-J. Osten, J. Griesche, M. Capitan 152

Role of the resistive layer on the performances of 2D a-Si:H thin film position sensitive detectors
R. Martins, E. Fortunato 158

Sensor properties of Pt doped SnO_2 thin films for detecting CO
A.V. Tadeev, G. Delabouglise, M. Labeau 163

Self-assembly of ultrathin composite TiO_2/polymer films
N. Kovtyukhova, P.J. Ollivier, S. Chizhik, A. Dubravin, E. Buzaneva, A. Gorchinskiy, A. Marchenko, N. Smirnova 166

Performances exhibited by large area ITO layers produced by r.f. magnetron sputtering
I. Baía, M. Quintela, L. Mendes, P. Nunes, R. Martins 171

Performances presented by zinc oxide thin films deposited by spray pyrolysis
P. Nunes, B. Fernandes, E. Fortunato, P. Vilarinho, R. Martins 176

XPS characterization of tungsten-based contact layers on 4H–SiC
A. Kakanakova-Georgieva, Ts. Marinova, O. Noblanc, C. Arnodo, S. Cassette, C. Brylinski 180

Insulating layers of polycrystalline GaAsS compounds grown by reactive plasma sputtering
O. Pesty, P. Canet, F. Lalande, J.L. Seguin, H. Carchano 184

Laser crystallised poly-Si TFTs for AMLCDs*
S.D. Brotherton, J.R. Ayres, M.J. Edwards, C.A. Fisher, C. Glaister, J.P. Gowers, D.J. McCulloch, M. Trainor . 188

Temperature analysis of polysilicon thin-film transistors made by excimer laser crystallization
V. Foglietti, L. Mariucci, G. Fortunato 196

Coplanar amorphous silicon thin film transistor fabricated by inductively-coupled plasma CVD
S. Ki Kim, S. Il Cho, Y. Jin Choi, K. Sik Cho, S.M. Pietruszko, J. Jang 200

Ion implantation of microcrystalline silicon for low process temperature top gate thin film transistors
V. Chu, H. Silva, L.M. Redondo, C. Jesus, M.F. Silva, J.C. Soares, J.P. Conde 203

Electronic properties of bottom gate silicon nitride/hydrogenated amorphous silicon structures
J.P. Kleider, C. Longeaud, F. Dayoub 208

Large area X-ray detectors based on amorphous silicon technology*
J-P. Moy 213

Characteristics of a linear array of a-Si:H thin film position sensitive detector
E. Fortunato, F. Soares, P. Teodoro, N. Guimarães, M. Mendes, H. Águas, V. Silva, R. Martins 222

Design issues of two-dimensional amorphous silicon position-sensitive detectors
J-Y. Shung, K.Y.-J. Hsu, Y-L. Jiang, C-J. Tsai 226

Stability and quantum efficiency of a novel type of a-Si:H/a-SiC:H based UV detector
P. Mandracci, M.L. Rastello, P. Rava, F. Giuliani, F. Giorgis 232

Al-based sputter-deposited films for large liquid-crystal-display
H. Takatsuji, T. Arai, S. Tsuji, K. Kuroda, H. Saka 235

Low temperature silicon deposition for large area sensors and solar cells
M.B. Schubert 240

Device-quality polycrystalline silicon films deposited at low process temperatures by hot-wire chemical vapor deposition
S.C. Saha, J. Guillet, B. Equer, J.E. Bourée 248

Ge:Si:O evaporated alloys as a thermosensitive layer for large area bolometers
E. Iborra, J. Sangrador, M. Clement, J. Perrière 253

toc1 > Enhancing the field emission properties of amorphous carbon films by thermal annealing
A.P. Burden, R.D. Forrest, S.R.P. Silva 257

Influence of surface morphology of the polycrystalline silicon on field electron emission
A.A. Evtukh 261

From materials to products: a system perspective*
C. Reita 266

Author Index of Volume 337 270

Subject Index of Volume 337 272

For more information on *Thin Solid Films*, please visit our website at:
http://www.elsevier.nl/locate/tsf

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. A leaflet describing our requirements is available from the publisher upon request